

Claims

1. A composition for treating or preventing a flavivirus or pestivirus infection, comprising a Jab1 (Jun-activation binding protein 1) protein.

5 2. The composition as set forth in claim 1, wherein the Jab1 protein has an amino acid sequence designated as SEQ ID No. 2.

 3. The composition as set forth in claim 1, wherein the Jab1 protein is encoded by a nucleotide sequence
10 designated as SEQ ID No. 1.

 4. A composition for treating or preventing a flavivirus or pestivirus infection, comprising a nucleic acid having a nucleotide sequence coding for a Jab1 protein.

15 5. The composition as set forth in claim 4, wherein the nucleic acid having the nucleotide sequence coding for the Jab1 protein is a recombinant vector having a nucleotide sequence coding for an amino acid sequence designated as SEQ ID No. 2.

20 6. The composition as set forth in claim 4, wherein

the nucleic acid having the nucleotide sequence coding for the Jab1 protein is a recombinant vector having a nucleotide sequence designated as SEQ ID No. 1.

7. The composition as set forth in claim 5 or 6,
5 wherein the recombinant vector is a recombinant viral vector.

8. The composition as set forth in claim 7, wherein the recombinant viral vector is selected from among recombinant retrovirus, adenovirus, adeno-associated virus
10 and herpes simplex virus.

9. A composition for treating or preventing a flavivirus or pestivirus infection, comprising a recombinant virus expressing a Jab1 protein.

10. The composition as set forth in claim 9, wherein
15 the recombinant vector expressing the Jab1 protein is a recombinant virus expressing a Jab1 protein having an amino acid sequence designated as SEQ ID No. 2.

11. The composition as set forth in claim 9, wherein the recombinant vector expressing the Jab1 protein is a
20 recombinant virus expressing a Jab1 protein encoded by a nucleotide sequence designated as SEQ ID No. 1.

12. The composition as set forth in claim 9, wherein the recombinant vector is selected from among adenovirus, adeno-associated virus and herpes simplex virus.

13. The composition as set forth in claim 12, wherein
5 the recombinant vector is selected from among retrovirus and adenovirus.

14. The composition as set forth in any one of claims 1, 4 and 9, wherein the infection is a flavivirus infection.

10 15. The composition as set forth in claim 14, wherein the flavivirus is West Nile virus.

16. The composition as set forth in any one of claims 1, 4 and 9, wherein the infection is associated with fever, rash, bleeding, jaundice, arthralgia, myalgia, encephalitis
15 or meningitis.

17. A method of screening a compound stimulating expression of a Jab1 protein, comprising:

(a) culturing a cell expressing the Jab1 protein;
(b) contacting the cell cultured at (a) with
20 candidate compounds for stimulating expression of

the Jab1 protein;

(c) comparing an expression level of the Jab1 protein at (b) with that in a control not contacted with the candidate compounds; and

5 (d) identifying a compound increasing expression levels of the Jab1 protein.

18. A method of screening a compound stimulating interaction between a Jab1 protein and a capsid (Cp) protein, comprising:

10 (a) culturing a cell transformed with both a recombinant vector expressing the Jab1 protein and another recombinant vector expressing the Cp protein of flavivirus or pestivirus;

(b) contacting the cell cultured at (a) with candidate
15 compounds for stimulating interaction between the Jab1 protein and the Cp protein;

(c) comparing an expression level of the Cp protein at (b) with that in a control not contacted with the candidate compounds; and

20 (d) identifying a compound reducing expression levels of the Cp protein.

19. The method as set forth in claim 17 or 18, wherein the comparison of expression levels at (c) is carried out in protein or mRNA levels.

20. The method as set forth in claim 19, wherein the comparison of expression levels is carried out by an immunoassay method.

21. The method as set forth in claim 19, wherein the
5 comparison of expression levels is carried out in mRNA levels by RT-PCT (Reverse Transcription-Polymerization Chain Reaction).